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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,967

Applicant(s)

REIME ET AL.

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-14, 16-22 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 10, 15 and 23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claims 1 and 10 are objected to because of the following informalities:

In claim 1, line 4, "one ore more" should be --one or more--.

In claim 10, "the pulsed mode" lacks proper antecedent basis. Examiner believes Applicant intended for claim 10 to depend from claim 9.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 5-9, 11-14, 16-19, 21, 22 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitzgibbon (U.S. Patent 4,710,759).

Regarding claims 1, 5-9, 11-14, 16-19, 21, 22 and 24-26, Fitzgibbon discloses (see Figure 1) a method and device of sensing and detecting the presence of an object at a touch pad device having one or more input functions, wherein the touch pad device has a designated interaction area (10) for allowing a user to use the object to interact with the touch pad device for facilitating the one or more input functions, the method comprising: providing at least one group of optical sensor components including a first

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light emitter (LEDs; one element of 12 or 14), a second light emitter (another element of 12 or 14) and a light receiver (22 or 20, respectively) in the touch pad device at different locations such that the receiver is capable of receiving a first amount of light emitted by the first light emitter and a second amount of light emitted by the second light emitter; wherein when the object is present at the touch pad device, causing a change in the first amount of light and the second amount of light, measuring separately (each LED is fired separately) the change in the first amount of light and the change in the second amount of light for providing a first signal and a second signal indicative of the respective changes; and determining (see column 3, lines 1-5) the location of the object in the designated interaction area in relation to the first light emitter and the second light emitter based on the first and second signals. The method of Fitzgibbon is repeatedly carried out for providing changes in the location of the object as a function of time. Fitzgibbon also discloses (see Figure 1) the touch pad device has a peripheral area surrounding the designated interaction area (10), the group of optical sensor components are placed within the peripheral area, on either an upper, lower, left or right side. Fitzgibbon further discloses (see column 3, lines 40-45) pulsing the light emitters (firing on and off) at a predetermined frequency (see column 2, lines 45-50) that changes the first amount of light and the second amount of light to contain a frequency component of the predetermined frequency. Fitzgibbon also discloses (see Figure 1) a further group of optical sensor components including a third light emitter (an element of 14 or 12), a fourth light emitter (another element of 14 or 12) and a further light receiver (20 or 22, respectively) at different locations as claimed, and measuring separately and

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determining the location of the object based on third and fourth signals as claimed. In addition, Fitzgibbon discloses (see Figure 1) a filtering module (24) for providing the frequency component.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Burke (U.S. Patent 4,311,990).

Regarding claims 1-4, Burke discloses (see Figure 5) a method of sensing and detecting the presence of an object at a touch pad device having one or more input functions, wherein the touch pad device has a designated interaction area (entire keyboard area) for allowing a user to use the object to interact with the touch pad device for facilitating the one or more input functions, the method comprising: providing at least one group of optical sensor components including a first light emitter (A), a second light emitter (B) and a light receiver (5) in the touch pad device at different locations such that the receiver is capable of receiving a first amount of light emitted by the first light emitter and a second amount of light emitted by the second light emitter; wherein when the object is present at the touch pad device, causing a change in the first amount of light and the second amount of light, measuring separately (each LED is pulsed separately) the change in the first amount of light and the change in the second amount of light for providing a first signal and a second signal indicative of the respective changes; and determining (see table in column 4) the location of the object in the designated interaction area in relation to the first light emitter and the second light emitter based on the first and second signals. Burke also discloses (see Figure 5) the

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group optical sensor components are placed within the designated interaction area at a lower, upper, left or right side.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fitzgibbon.

Regarding claim 20, Fitzgibbon discloses the claimed invention as set forth above. Fitzgibbon does not specifically disclose using infrared radiation. However, it is notoriously well known in the art to use infrared radiation in touch pad devices in order to reduce interference with visible radiation. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide infrared radiation in the apparatus of Fitzgibbon to reduce interference and improve detection.

Allowable Subject Matter

8. Claims 10, 15 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: A method and device of sensing and detecting the presence of an object at a touch pad as claimed, more specifically in combination with: controlling the third amount

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of light to be substantially equal to the sum of the first and second amount when the object is not present; or providing compensation light emitters such that the compensation amount is equal to the sum of the other light amounts; or disposing the components at corners, operating the emitters at a bi-wavelength and providing third and fourth light receivers is not disclose or made obvious by the prior art of record.


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
January 28, 2003



Thanh X. Luu
Patent Examiner